

**UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF MICHIGAN**

BOSCH SOLAR ENERGY CORP.,)	
)	
Plaintiff,)	
)	
v.)	CASE NO.
)	
Korea Steel Company, Ltd., a/k/a KISCO, a)	
corporation existing under the laws of the)	
Republic of Korea,)	
)	
Defendant.		

There is no other pending or resolved civil action
arising out of the transaction or occurrence
alleged in the Complaint.

COMPLAINT AND DEMAND FOR JURY TRIAL

Plaintiff, Bosch Solar Energy Corp. (“Bosch Solar”), for its Complaint and Demand for Jury Trial (the “Complaint”) against defendant Korea Steel Company, Ltd. (“KISCO”)¹, hereby states and alleges as follows:

1. Pursuant to a written contract, Bosch Solar purchased tens of thousands of solar panels from KISCO and resold those panels for roof- and ground-mounted installations. An unusually high percentage of these solar panels have exhibited manufacturing defects causing degraded performance and excessive heat. Because the majority of the KISCO panels are mounted on building rooftops, the heat generated by KISCO’s improper soldering created a risk of building fires. This, in turn, obligated Bosch Solar, which had sold the KISCO panels in the United States, to conduct a recall of the approximately 26,000 roof-mounted KISCO panels. Pursuant to the written contract between the parties, KISCO is required to indemnify Bosch Solar for the full cost

¹ The relevant agreement identifies Bosch Solar’s counterparty only as “KISCO.” Bosch Solar understands this to be a reference to an entity named 한국철강주식회사, which translates as Korea Steel Company, Ltd. That entity’s public filings with South Korean regulators state that it is known as KISCO in English.

of that recall. Despite written demand, KISCO has refused to do so.

2. In addition, Bosch Solar has been and will be required to replace ground-mounted solar panels supplied by KISCO that have exhibited excessive heat or degraded performance due to manufacturing defects. KISCO gave Bosch Solar a ten-year warranty regarding the quality and performance of the solar panels, and is obligated under the terms of its contract to indemnify Bosch Solar for any costs incurred as a result of any breach. Despite written demand by Bosch Solar, KISCO has refused to honor its warranty or its promise to indemnify Bosch Solar.

THE PARTIES, JURISDICTION, AND VENUE

3. Plaintiff Bosch Solar is a corporation organized under the laws of the State of Michigan with its principal place of business in Farmington Hills, Michigan.

4. Upon information and belief, KISCO is an entity formed and existing under the laws of the Republic of Korea with its principal place of business in Jeungpyeong, Republic of Korea. Through its Getwatt division, KISCO manufactured and sold photovoltaic solar panels.

5. This Court has original jurisdiction over this matter under 28 U.S.C. § 1332(a)(2) because there is complete diversity of citizenship between the parties to this action and the amount in controversy exceeds a value of \$75,000.00, exclusive of interest and costs. KISCO and Bosch Solar contractually agreed and consented to the exclusive jurisdiction of the state and federal courts of the State of Michigan over disputes involving the solar panels sold by KISCO to Bosch Solar. Contract for the Manufacture of Solar Panels (the “Contract”) at ¶ 16.4. A true and correct copy of the relevant portions of the Contract is attached hereto as Exhibit A.

6. Venue is proper in the United States District Court for the Eastern District of Michigan pursuant 28 U.S.C. § 1391 (b)(1), (b)(2), (c)(3) because KISCO is not resident in the United States and may therefore be sued in any judicial district, and because a substantial part of the events giving rise to Bosch Solar’s claim arose in this District.

BACKGROUND

A. Bosch Solar's Purchase and Sale of Solar Panels Manufactured by KISCO

7. Prior to 2011, Bosch Solar began selling and distributing photovoltaic solar modules ("solar panels") utilizing advanced technology components to supply environmentally-friendly solar energy.

8. Bosch Solar and KISCO entered into the Contract on or about January 19, 2012. Under the terms of the Contract, KISCO was to manufacture photovoltaic solar panels for Bosch Solar with specific characteristics, including dimensions, electrical output and quality metrics. Bosch Solar, in turn, marketed and sold the KISCO-manufactured solar panels to installers who then resold the panels to end customers, and to distributors who resold panels to installers for resale to end customers.

9. Under the terms of the Contract, KISCO made certain representations and promises to Bosch Solar. First, KISCO agreed to produce the solar panels in accordance with the specifications set forth in Appendices to the Contract. Those specifications contain detailed technical requirements regarding the properties of the finished solar modules. Exhibit A at ¶¶ 3.1-3.2; Appendices 2-4 thereto.

10. KISCO further agreed that, "[w]ith respect to technology, quality, price and delivery," the solar panels "must be at least equivalent to comparable products of competitors." Exhibit A at ¶ 6.2.

11. Further, the parties acknowledged that Bosch Solar would grant end customers a product and performance guarantee on KISCO-manufactured solar panels. Exhibit A at ¶ 10. KISCO, in turn, granted Bosch Solar a product warranty that guaranteed that the panels were "free of defects in material and workmanship," as well as a performance guarantee that warranted that

the panels would “(a) within a period of ten years from the date of delivery provide at least 90%; and (b) within a period of 25 years from the date of delivery provide at least 80% of the minimum performance set forth in the data sheet (defined as the lower sorting limit of the respective module power class less the power measurement tolerance.” *Id.* at ¶ 10 & Appendix 5 thereto. The product warranty and performance guarantee granted by KISCO to Bosch Solar were in accordance with the product warranty and performance guarantee granted by Bosch Solar to end customers.

12. KISCO also agreed to indemnify Bosch Solar from any third party claims arising from KISCO-manufactured solar panels that did not conform to the warranty provided by Bosch Solar to end customers. Exhibit A at ¶ 10.

13. Further, KISCO agreed that, in the event that end customers complained of the KISCO-manufactured solar panels, KISCO was required to “conduct without delay all necessary or appropriate investigations, examinations and analyses . . .” Exhibit A at ¶ 11.4.

14. KISCO also represented and agreed that it would hold Bosch Solar harmless against product liability claims and assume “all costs and expenses, including the costs of any legal action” in such cases, and to bear “[t]he costs of [any] recall action . . . insofar as a recall action is due to a defect in a Product supplied” by KISCO. Exhibit A at Appendix 1, ¶¶ 9.1-9.2. KISCO’s warranty extends for a period of ten (10) years, beginning at the time of arrival of the solar panels at Bosch Solar. Exhibit A at ¶ 11.7.

15. Relying on these representations and KISCO’s product warranty and performance guarantee, Bosch Solar purchased approximately 43,300 solar panels from KISCO, which KISCO delivered to Bosch Solar in the United States.

16. Bosch Solar paid for the solar panels and otherwise fulfilled its obligations under the Contract.

17. Bosch Solar sold 42,685 of the KISCO-manufactured photovoltaic solar panels to installers in the United States and Canada as “Bosch NA30119” panels. Of the 42,685 solar panels sold, 15,834 were used in ground-mounted installations and approximately 26,850 were mounted on building rooftops.

B. Defects are Identified In KISCO-Manufactured Solar Panels

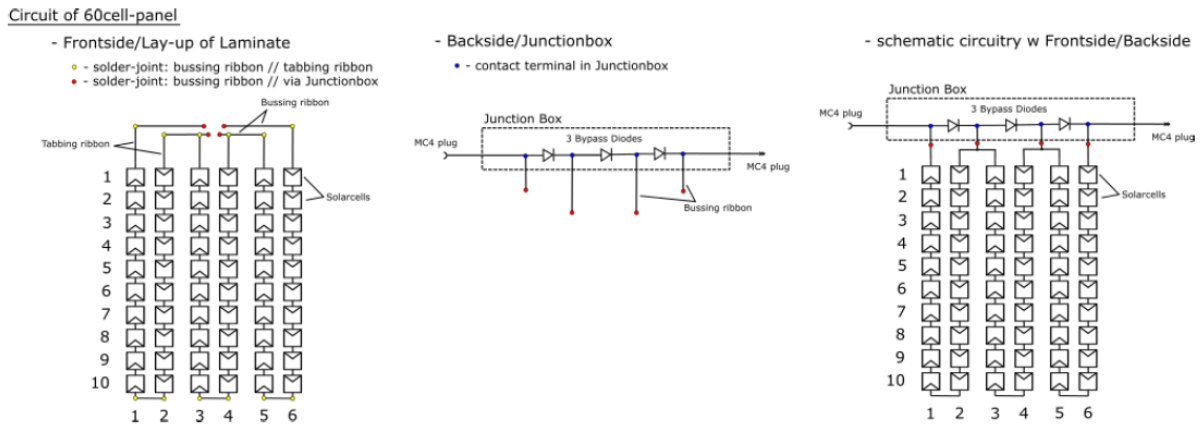
18. In 2014, Bosch Solar received warranty claims of reduced output on eight panels in three different locations. At this time, Bosch Solar considered these to be isolated incidents, and replaced the panels from stock on hand. Bosch Solar notified KISCO of the warranty claims. KISCO, in turn, acknowledged the warranty claims and reimbursed Bosch Solar for its costs in replacing the panels.

19. In February 2015, an installer that had purchased KISCO-manufactured “Bosch NA30119” solar panels from Bosch Solar complained to an affiliate of Bosch Solar that 402 panels installed on a commercial rooftop in Raleigh, North Carolina were not producing the expected amount of energy.

20. On March 2, 2015, Bosch Solar issued a warranty claim to KISCO for the 402 defective panels, and invited KISCO, as the manufacturer of the panels, to conduct an investigation into the cause of the failure.

21. In May 2015, KISCO personnel conducted an on-site inspection of panels at the Raleigh installation. Following this inspection, in June 2015 KISCO issued a technical report to Bosch Solar attributing the reduced power output from the defective panels to a limited number of “bypass diodes” that had short-circuited, and that the panels could be repaired by replacing those diodes.

22. The following schematics illustrate the connections in a solar panel:



In the solar panels manufactured by KISCO for Bosch Solar, individual solar cells are connected into three sub-strings, and “bussing ribbons” are used to connect these sub-strings to the junction box. Inside the junction box, bypass diodes are placed between the connections from the bussing ribbons. In the event that one sub-string fails, the bypass diodes operate to prevent electricity from the functioning sub-strings from following the circuit back to the defective panel. The junction box, in turn, leads to the solar panel’s external connections.

23. Although KISCO attributed the reduced power output of the panels at the Raleigh installation to the failure of bypass diodes, it did not identify the cause of the bypass diode failure. In light of that, Bosch Solar conducted its own inspection.

24. Bosch Solar removed twenty (20) of the KISCO-manufactured panels from the Raleigh installation for further inspection. Upon inspection, Bosch Solar found that all of the bypass diodes were functioning correctly. However, in sixteen (16) of the inspected panels, one of the bussing ribbons was not connected to the contact terminal in the junction box, due to what appeared to be missing or improper soldering. The lack of connection between the bussing ribbon and the contact terminal created high-ohmic contact resistance, which, in turn, caused the bypass diodes to fail and generated heat potentially sufficient to ignite surrounding material in the solar

panel, such as the backsheet and ethylene vinyl acetate film. Bosch Solar provided a detailed explanation of its analysis during a September 11, 2015, meeting with KISCO, and a detailed report on November 17, 2015, along with a revised notice of warranty claim.

25. In late 2015, Bosch Solar received another warranty claim from the same installer, this time with respect to a ground-mounted installation in Plymouth, North Carolina. Unlike the Raleigh installation, the Plymouth installation included solar panels manufactured by suppliers other than KISCO in addition to KISCO panels. Out of approximately 28,000 panels at the Plymouth installation, only approximately 10,500 were manufactured by KISCO. The installer claimed that 262 of the KISCO panels were experiencing decreased power output. Bosch Solar removed and inspected ten panels, and determined that nine of the ten had the same disconnected bussing ribbon issue observed at the Raleigh installation. Accordingly, Bosch Solar made a warranty claim to KISCO on December 18, 2015.

26. KISCO for the first time then claimed that the issues experienced in both Raleigh and Plymouth were due to mishandling or improper installation of the panels, and/or due to maintenance personnel walking on the panels in Raleigh. However, KISCO never provided an explanation as to why its panels experienced issues at the Plymouth installation but the panels at that installation manufactured to the same technical specifications by a third party did not.

27. Through late 2015 and early 2016, Bosch Solar and KISCO exchanged additional correspondence regarding the defects observed at the Raleigh and Plymouth installations. However, KISCO denied that the solder defect was the cause of the observed performance issues, and refused to reimburse Bosch Solar for the costs of removing and replacing the more than 400 defective panels.

28. At this time, Bosch Solar had not received a significant number of warranty claims

from other end-users, and did not have reason to believe that the defect extended to other installations. However, Bosch Solar subsequently received a number of additional warranty claims. In investigating these claims, Bosch Solar discovered that all or substantially all of the failing panels tested by Bosch Solar exhibited the same bussing ribbon soldering defect previously observed at Raleigh and Plymouth. Bosch Solar also determined that there was a significant risk that additional panels would exhibit the defect as the panels aged, and that the fact that a panel currently did not exhibit the defect did not mean that it would not subsequently develop the issue.

29. In light of the nature of the defect, the heat generated as a result of the defect, the high solar panel failure rate (and possibility of additional failures in the future), and the placement of affected panels on building rooftops, Bosch Solar evaluated the potential safety impact of the defective panels. Bosch Solar concluded that there was a risk of a roof-mounted KISCO-manufactured panel igniting as a result of the identified soldering defect. In the event that a panel ignited, there was a further risk that the fire could spread to the building on which the panel was installed, posing a risk of both property damage and personal injury.

30. Having concluded that the KISCO-manufactured solar panels posed a risk of injury to occupants of buildings on which they were mounted, Bosch Solar reported its conclusions to the U.S. Consumer Product Safety Commission and to HealthCanada, as required by law.

31. To ensure the safety of occupants of buildings on which the KISCO-manufactured solar panels had been installed, and to comply with the directives of the U.S. Consumer Product Safety Commission and of HealthCanada, Bosch Solar recalled all roof-mounted KISCO-manufactured “Bosch NA30119” solar panels in the United States and Canada, and commenced a program to replace all roof-mounted “Bosch NA30119” solar panels in the United States and Canada with new, substitute panels.

32. After the recall began, KISCO once again visited both the Raleigh and Plymouth installations to inspect the solar panels located there.

33. Because the panels subject to recall are roof-mounted and are connected to sophisticated electrical equipment, Bosch Solar has had to retain specialist installation firms to remove the existing panels and to install the replacement panels. Moreover, because the dimensions of the commercially-available replacement panels differ from the dimensions of the affected panels, the specialist installation firms often have to re-engineer and re-install entire rooftop solar systems.

34. To date, Bosch Solar has incurred expense for the removal and replacement of roof-mounted solar panels in excess of \$1,000,000 and, absent relief from the Court, will continue to incur such expenses.

35. In addition to the recall, Bosch Solar has had to honor end customer warranty claims and replace more than 200 ground-mounted solar panels manufactured by KISCO. Although not subject to the voluntary recall (because they are not located on buildings to which a fire could spread), these panels have exhibited diminished output, and Bosch Solar's customers have asserted warranty claims demanding replacement. Because the bussing ribbon defect manifests over time, Bosch Solar anticipates that it will receive additional warranty claims in the future as the solar panels age.

36. Bosch Solar has incurred substantial costs associated with the warranty claims identified in Paragraph 35, and expects that warranty expenses (including costs of replacement parts and installation) will exceed \$1,000,000.

C. Bosch Solar Demands KISCO Perform Under the Contract

37. On March 2, 2018, Bosch Solar sent a letter to KISCO demanding that KISCO

assume the costs of the recall and reimburse Bosch Solar for all costs incurred as of that date in connection with the recall. A true and correct copy of the letter sent by Bosch Solar to KISCO on March 2, 2018 is attached hereto as Exhibit B.

38. In the same letter, Bosch Solar requested that KISCO confirm by March 23, 2018 that it would indemnify Bosch pursuant to the terms of the Contract against all warranty claims and costs of replacing defective panels and to assume all costs of the recall of the roof-mounted panels.

39. To date, KISCO has refused to indemnify Bosch Solar.

COUNT I
BREACH OF CONTRACT

40. Bosch Solar Services restates and realleges paragraphs 1 through 39 of this Complaint as if fully restated herein.

41. The Contract between KISCO and Bosch Solar is a valid and enforceable contract.

42. The Contract required the solar panels to meet certain specifications.

43. KISCO breached the Contract by selling to Bosch Solar solar panels that were improperly soldered and therefore did not meet the contractually-specified quality standards.

44. KISCO breached the Contract by selling to Bosch Solar solar panels that were improperly soldered and therefore were not of a quality “at least equivalent to comparable products of competitors.”

45. KISCO breached the Contract by failing to implement and maintain an appropriate quality management system, as required by the Contract.

46. Bosch Services fully performed its obligations under the contract.

47. As a direct and proximate result of KISCO’s breaches, Bosch Solar has and will continue to suffer substantial damage to its property because the KISCO-manufactured solar

panels cannot be used for their intended purpose.

48. As a further result of KISCO's breaches, Bosch Solar has been forced to incur significant costs and other expenses through its investigation and subsequent recall of the KISCO-manufactured solar panels, and replacement of defective ground-mounted panels.

COUNT II
BREACH OF CONTRACT - INDEMNIFICATION

49. Bosch Solar Services restates and realleges paragraphs 1 through 48 of this Complaint as if fully restated herein.

50. Despite proper demand by Bosch Solar Services, KISCO has refused to indemnify Bosch Solar Services from third party claims resulting from the defects in the KISCO-manufactured solar panels.

51. KISCO's refusal is in breach of Paragraph 10 of the Contract, which requires KISCO to indemnify Bosch Solar Services against such claims.

52. As a direct and proximate result of KISCO's breach, Bosch Solar has been forced to incur significant costs and other expenses through its investigation and subsequent recall of the KISCO-manufactured solar panels.

COUNT III
BREACH OF CONTRACT – COSTS OF RECALL

53. Bosch Solar Services restates and realleges paragraphs 1 through 52 of this Complaint as if fully restated herein.

54. Despite proper demand by Bosch Solar, KISCO has refused to assume the costs of recalling roof-mounted "Bosch NA30119" solar panels in the United States and Canada, including all costs to remove, replace, and dispose of the "Bosch NA30119" solar panels.

55. KISCO's refusal is in breach of Paragraph 9.4 of the Terms and Conditions of

Purchase, which is incorporated into and made part of the Contract, and which requires KISCO to bear all costs of a recall action “partially or wholly due to a defect” in KISCO-manufactured “Bosch NA30119” solar panels.

56. As a direct and proximate result of KISCO’s breach, Bosch Solar Services has been forced to incur significant costs and other expenses through its investigation and subsequent recall of the KISCO-manufactured solar panels.

COUNT IV
BREACH OF EXPRESS WARRANTY

57. Bosch Solar restates and realleges paragraphs 1 through 57 of this Complaint as if fully restated herein.

58. KISCO expressly warranted that the solar panels it supplied to Bosch Solar were free from defects in material and workmanship. KISCO also granted Bosch Solar an express performance guarantee.

59. KISCO acknowledged that it knew of Bosch Solar’s intention to sell the solar panels to end customers and acknowledge use of the solar panels.

60. Bosch Solar relied on KISCO’s representations regarding the solar panels as set forth in the Contract and would not have purchased the solar panels but for such representations.

61. As set forth herein, the KISCO-manufactured solar panels failed to comply with KISCO’s product warranty and performance guarantee because they were improperly soldered, subject to excessive heating, and unable to meet performance standards in that the solar panels experienced a degradation of power below the output promised by KISCO.

62. Bosch Solar has notified KISCO of its breach of warranty as required under applicable law. *See* Exhibit B. Bosch Solar provided KISCO with timely notice of the breach of the warranty.

63. KISCO has failed to remedy the breach.

64. As a direct and proximate result of KISCO's breach of express warranty, Bosch Solar Services has been forced to incur significant costs and other expenses, including the costs of replacing defective panels.

COUNT V
DECLARATORY JUDGMENT

65. Bosch Solar Services restates and realleges paragraphs 1 through 64 of this Complaint as if fully restated herein.

66. Paragraph 9.4 of the Terms and Conditions of Purchase, which is incorporated into and made part of the Contract, requires KISCO to bear all costs of a recall action "partially or wholly due to a defect" in KISCO-manufactured solar panels.

67. Despite proper demand by Bosch Solar Services, KISCO has refused to assume the costs of recalling roof-mounted solar panels in the United States and Canada, including all costs to remove, replace, and dispose of the KISCO-manufactured solar panels.

68. The recall of KISCO-manufactured solar panels will continue for some indeterminable time, and will entail considerable expense.

69. Bosch Solar has in certain instances been required to replace ground-mounted KISCO-manufactured solar panels in addition to the roof-mounted panels. Bosch Solar is likely to continue to receive similar demands for the replacement of defective KISCO solar panels.

70. An actual case or controversy exists between Bosch Solar Services and KISCO concerning KISCO's obligation to bear the costs of the recall program going forward.

71. The Court may issue a declaration resolving the controversy by declaring that KISCO must pay all costs of the recall program.

WHEREFORE, plaintiff Bosch Solar Energy Corporation respectfully requests that judgment be entered:

- A. Awarding Bosch Solar damages in an amount to be determined at trial, plus pre- and post-judgment interest;
- B. Declaring that the Contract requires KISCO to pay all costs of the recall program, including, but not limited to, the costs of removing, replacing, and disposing of all KISCO-manufactured roof-mounted solar panels;
- C. Awarding Bosch Solar its costs of suit; and
- D. Granting Bosch Solar such other relief as the Court deems just and proper.

Dated: December 28, 2020

Respectfully submitted,

/s/ Scott T. Seabolt

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